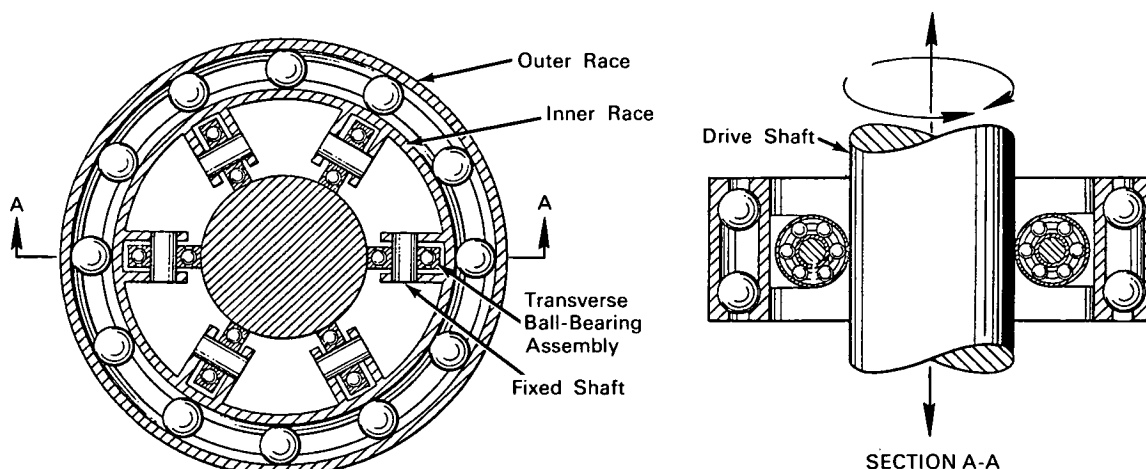


NASA TECH BRIEF



This NASA Tech Brief is issued by the Technology Utilization Division to acquaint industry with the technical content of an innovation derived from the space program.

Bearing Transmits Rotary and Axial Motion



The problem: Providing a low-friction bearing that transmits rotary and axial motion.

The solution: A two-component bearing comprising a pair of ball-bearing races for transmitting rotary motion and an inner series of ball-bearing assemblies for transmitting axial motion.

How it's done: A series of transverse ball-bearing assemblies extends inwardly from the inner race. The larger race in each of these assemblies is free to rotate about a small fixed shaft when an axial thrust or pull is applied to the drive shaft. The drive shaft is thus permitted to move axially with a minimum of friction. When torque is applied to the drive shaft, tangential forces are transmitted through the transverse bearing assemblies to the inner ball-bearing race, which permits essentially friction-free rotation of the shaft.

Notes:

1. This bearing should be especially useful in mechanisms that permit only extremely close tolerances, such as in stress-strain testing machines.

2. Inquiries concerning this invention may be directed to:

Technology Utilization Officer
Langley Research Center
Langley Station
Hampton, Virginia, 23365
Reference: B64-10130

Patent status: NASA encourages the commercial use of this invention. It has been patented by NASA (U.S. Patent No. 2,903,307), and royalty-free license rights will be granted for its commercial development. Inquiries about obtaining a license should be addressed to NASA Headquarters, Washington, D.C., 20546.

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